

AMENDMENTS TO THE CLAIMS:

Kindly amend the claims as detailed below. This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of claims:

1. (presently amended) A method for manufacturing an optical connector assembly, comprising:

preparing a sealed assembly comprising at least one embedded optical fiber;

polishing an first end of said sealed assembly at a predetermined angle to enable a coupling of said optical fiber to an optical device using a total internal reflection to a planar coupling surface located on said sealed assembly;

~~buffing at least said planar coupling surface of said assembly;~~

placing said planar coupling surface on said optical device with said planar coupling surface abutting a planar window ~~of~~ over said optical device; and

using references on said optical device and said sealed assembly to adjust a position of said sealed assembly ~~on~~ over said planar window to achieve said coupling.

2. (presently amended) The method as claimed in claim 1, wherein said preparing said sealed assembly comprises:

providing a substrate having at least one V-groove;

inserting an optical fiber in each of the at least one V-groove provided in the sealed assembly;

Serial No. 10/625,905
Response to Office Action of Oct. 4, 2005

Agent's Ref. 16005-1US
Amdt. dated Jan. 4, 2006

- 2 -

BEST AVAILABLE COPY

providing an epoxy coating substance over at least one part of said sealed assembly, in the vicinity of the at least one V-groove; and

sealing the optical fiber in each of the at least one V-groove provided in the sealed assembly using the epoxy coating substance and a sheet material provided over said assembly coupling surface over the at least one V-groove to ensure each said optical fiber is correctly place and bonded within said at least on V-groove to create a said sealed assembly; and

wherein said polishing of said first end of said sealed assembly at a predetermined angle provides a bevelled surface on said sealed assembly and thereby also provides a bevelled surface on each said optical fiber at the first end of said sealed assembly.

3. (presently amended) The method as claimed in claim 2, further comprising the step of removing said sheet material to expose said planar coupling surface of said sealed assembly.
4. (original) The method as claimed in claim 2, wherein said sheet material is transparent, further comprising the step of partially removing said sheet material.
5. (presently amended) The method as claimed in ~~claim 4~~ claim 26, wherein said buffing comprising removing a portion of a cladding of said optical fiber in said sealed assembly, a core of said fiber being ~~essentially adjacent said edge of said assembly, said adjusting comprising observing a position of said core near said edge on said window so as to position said core over a corresponding optical element of said device.~~

6. (presently amended) The method as claimed in claim 5, wherein the object of observation is a fiducial mark or etching on said sealed assembly ~~edge on said window.~~
7. (presently amended) The method as claimed in claim 42, wherein the epoxy coating substance is light activated, further comprising the step of light activating the ~~light-activated substance~~ epoxy coating substance until it has solidified.
8. (presently amended) The method as claimed in ~~claim 2~~ claim 4, wherein the ~~sheet material is a transparent sheet material,~~ comprises said coupling surface ~~being on said sheet material.~~
9. (presently amended) The method as claimed in claim 2, wherein said at least one V-groove comprises a plurality of fibers inserted in a plurality of parallel V-grooves.
10. (presently amended) The method as claimed in claim 72, wherein the at least one V-groove is ~~are~~ etched in silicon.
11. (cancelled)
12. (presently amended) The method as claimed in claim 1, wherein the step of placing said planar coupling surface of said sealed assembly over said optical device with said planar coupling surface abutting a planar window ~~of~~ over said optical device comprises the providing of a transparent sheet of material between said coupling surface and said window of said optical device.
13. (presently amended) The method as claimed in claim 120, wherein the optical device comprises a VCSEL ~~sheet material comprises at least one microlens;~~

- ~~said at least one microlens enhancing said coupling between said optical device and said assembly.~~
14. (presently amended) The method as claimed in claim 129, wherein the optical device comprises a microlens ~~is provided on the sheet material~~ at a distance from the sealed assembly that will enable a capture of all light originating from a corresponding optical fiber and collimate all the light to the optical device.
15. (presently amended) The method as claimed in claim 1, wherein said polishing said first end of said sealed assembly further comprises providing an optically reflective coating to replace said total internal reflection.
- 16.-24 (cancelled)
25. (new) The method as claimed in claim 1, wherein said at least one embedded optical fiber comprises a plurality of fibers arranged as a ribbon cable.
26. (new) The method as claimed in claim 3, further comprising the step of buffing said planar coupling surface of said sealed assembly.
27. (new) An optical connector assembly, comprising:
- a sealed assembly comprising at least one embedded optical fiber;
 - said sealed assembly having a first end polished at a predetermined angle to enable a coupling of said optical fiber to an optical device using a total internal reflection to a planar coupling surface located on said sealed assembly;
 - said planar coupling surface being placed on said optical device with said planar coupling surface abutting a planar window over said optical device;
 - and

said optical device and said sealed assembly having references for adjusting a position of said sealed assembly over said window to achieve said coupling.

28. (new) The optical connector assembly as claimed in claim 27, wherein said sealed assembly further comprises:
- a substrate having at least one V-groove;
 - an optical fiber inserted in each of the at least one V-groove;
 - an epoxy coating substance over at least one part of said sealed assembly, in the vicinity of the at least one V-groove;
 - the optical fiber being sealed in each of the at least one V-groove using the epoxy coating substance and a sheet material provided over said planar coupling surface; and
 - wherein said first end polished at a predetermined angle provides a bevelled surface on said sealed assembly and thereby also provides a bevelled surface on each said optical fiber at the first end of said sealed assembly.
29. (new) The optical connector assembly as claimed in claim 28, wherein said sheet material is removed.
30. (original) The optical connector assembly as claimed in claim 28, wherein said sheet material is transparent, and wherein said sheet material is at least partially removed.
31. (new) The optical connector assembly as claimed in claim 27, wherein said optical fiber has a portion of a cladding removed to expose a core, said core being essentially adjacent to said planar coupling surface of said sealed

- assembly, said core near said edge positioned on said window over a corresponding optical element of said device.
32. (new) The optical connector assembly as claimed in claim 31, further comprising a fiducial mark or etching on said sealed assembly.
33. (new) The optical connector assembly as claimed in claim 27, wherein the epoxy coating substance is capable of light activation for solidification.
34. (new) The optical connector assembly as claimed in claim 30, wherein the transparent sheet material provides said coupling surface on said sheet material.
35. (new) The optical connector assembly as claimed in claim 28, wherein said at least one V-groove comprises a plurality of fibers each inserted in a respective one of a plurality of parallel V-grooves.
36. (new) The optical connector assembly as claimed in claim 33, wherein the at least one V-groove is etched in silicon.
37. (new) The optical connector assembly as claimed in claim 27, further comprising a transparent sheet of material between said coupling surface and said window of said optical device.
38. (new) The optical connector assembly as claimed in claim 37, wherein the optical device comprises a VCSEL.
39. (new) The optical connector assembly as claimed in claim 37, wherein the optical device comprises a microlens provided at a distance from the sealed assembly that will enable a capture of all light originating from a corresponding optical fiber and collimate all the light to the optical device.

Serial No. 10/625,905
Response to Office Action of Oct. 4, 2005

Agent's Ref. 16005-1US
Amdt. dated Jan. 4, 2006

40. (new) The optical connector assembly as claimed in claim 27, further comprising an optically reflective coating on said first end including at least one embedded optical fiber to replace said total internal reflection.
41. (new) The optical connector assembly as claimed in claim 27, wherein said at least one embedded optical fiber comprises a plurality of fibers arranged as a ribbon cable.

Serial No. 10/625,905
Response to Office Action of Oct. 4, 2005

Agent's Ref. 16005-1US
Amdt. dated Jan. 4, 2006

- 8 -